

Alcohol and Psychoactive Substance Use among University Students in Edirne and Related Parameters

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ABSTRACT

Introduction: Alcohol and psychoactive substance use and their effects are an important issue among adolescents and young adults. Different results have been reported about the frequency of alcohol and psychoactive substance use among university students in studies conducted both in Turkey and in different places worldwide.

Methods: The frequency of alcohol and psychoactive substance use among Trakya University students (n=1385) and the related parameters were studied cross-sectionally using a self-reporting questionnaire.

Results: Alcohol was the most common substance used (30%), followed by tobacco (29.9%) and marijuana (3.1%). The frequency of alcohol and

psychoactive substance use was found to be higher among males with higher amounts of pocket money, whose parents experienced more conflict in their relationship, and who belong to families with a higher education and income level.

Conclusion: The frequency of alcohol and psychoactive substance use among Trakya University students was found to be lower than other regions in Turkey and particularly lower than the levels reported in studies conducted in other countries.

Keywords: Alcohol, tobacco, marijuana, university students, substance misuse, psychoactive substance use

INTRODUCTION

Substance use and related behaviors among adolescents and young adults is a significant problem with respect to public health. Substance use is related with depression, addiction, violence, and other health risks (1). Biological sensitivity toward the addictive effects of psychoactive substances is high in adolescence and young adulthood (2).

Cultural aspects of the social environment have an effect on the use of alcohol and other substances. University students who show late adolescence characteristics experience some biological, psychological, social, and economic problems. During these years, accelerated biological changes and a lot of personality conflict can make them unstable in terms of their emotions. It should be considered that the period of youth is the novelty seeking term for many individuals (3). It should not be neglected that the acquisition of undesirable behaviors can be effected by the social environment. Social structures, traditions, customs, religious beliefs, various social events, and the speed of social change have an impact on alcohol and drug consumption. Individuals shape their behaviors according to the rules set by society (4). There is a major impact of cultural attitudes and beliefs on the behavior toward alcohol and substance use. In cultures where alcohol and drug use is acceptable, utilization rates are higher (5).

A number of studies have been conducted to determine the frequency of alcohol and psychoactive substance use among adolescents and young adults, and different results have been attained. The data on the prevalence of smoking, drinking, and substance use among the general population, particularly university students in Turkey, are limited and contradictory (6,7,8,9,10,11,12,13).

The rate of alcohol and illegal substance use by university students worldwide varies between 13.5% and 42% for tobacco, 23.2% and 87.6% for alcohol, 6.6% and 46.7% for marijuana, and 2.4% and 13.3% for cocaine (14,15,16,17,18,19,20,21). In Turkey, among the university students, the rates vary between 27.3% and 64.4% for tobacco, 30.4% and 70% for alcohol, and 2.3% and 11.7% for illegal substances such as marijuana, cocaine, or heroin (22,23,24,25).

The relationship between substance use and the demographic variables of age and gender have been widely studied. In most of the studies, substance use was found to be higher among males than among females (19,21,22,26,27). Some of the studies show that there is no difference in the rate of alcohol consumption according to gender (22,23). Moreover, it is also reported that males begin consuming alcohol at an earlier age than females (28).



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The socio-economic status influences the frequency of substance use among adolescents. In societies with low socio-economic levels, where immigration and unemployment are intensive; factors such as harsh living conditions, familial conflict due to financial strain, coping ability of individuals, and depression direct adolescents toward substance use (29,30). Although some researchers report that substance use is observed more frequently in societies with a low socio-economic status, others report that substances such as alcohol and tobacco can be obtained more easily and consumed more commonly by those at high socioeconomic levels (31,32).

A study stated that the risk of substance use is six times greater for those whose friends use substances. It was determined that 50.2% of those who use substances and 15.2% of those who do not use substances have friends who use substances (33). Farrell and White (34) determined that both peer pressure and peer substance use are significantly related with the frequency of substance use and that the relationship between peer pressure and substance use is stronger among females than among males.

It was asserted that the education level of an individual's family has an effect on substance use in adolescence (35). It was found that a high education level of parents is related to increased alcohol use and the rate of getting drunk (32,36). Parental alcohol and substance abuse is significantly related with alcohol and substance use in adolescents (32,37,38). Steinberg et al. (39) found that adolescents for whom there is insufficient familial monitoring use substances more regularly and that those who use substances have friendships with people who share similar ideas (i.e., that resemble them). Cohen et al. (40) found that when parents whose children use tobacco and alcohol spend more time communicating with their children, the level of alcohol and tobacco use decreases among the children. In the same study, it was determined that close relationships within families decreases the children's rate of contact with substance abusing friends, whereas destructive attitudes in the family double alcohol usage and quadruple tobacco use.

Family structure is another variable that influences substance use among adolescents. The possibility of adolescents using drugs increases in the case of parental absence because of reasons such as divorce, separation, or death. Adolescents from single-parent households are more likely to engage in criminal behavior (committing crime, illegal drug use) than those from two-parent households (41,42).

We hypothesized that alcohol and substance use in Trakya University students, in Edirne, is high compared with other countries and cities in Turkey. Another hypothesis of the study is that substance use characteristics can be affected by age, gender, sociocultural structure, and familial factors. Edirne has always been a significant center because of its location in the main route connecting Anatolia to Europe. The through highway plays an important role in global transport, connecting Europe to the Anatolian and Middle East. This route is known as an important way of substance traffic. Thus, access to obtain substances is expected to be easy. In Edirne, because of it being a border to Europe, the western lifestyle prevails, social tolerance is high, and social perspectives on alcohol and drug use are not very solid. Therefore, psychoactive substance use in Edirne is expected to be excessive.

METHODS

In this cross-sectional study, 1385 first-year university students at Trakya University in 2011 were asked to complete a survey within course hours and on a voluntary basis. The study was approved by the ethics committee of Trakya University. The returned surveys of seven participants were not

Survey results were obtained from 1378 university students and evaluated. The survey responses were anonymous. The survey form used in the study was compiled from questionnaires used for *The European School Survey Project on Alcohol and Other Drugs* (ESPAD) (43) and contained questions about sociodemographic status and familial factors. Survey forms of the study were composed of questions about age, gender, course success, economic conditions, substance use and sociocultural level of parents, relationship with parents, reasons for substance use, and access to illegal substances. To determine the rate of substance use, they were asked whether they use tobacco, alcohol, marijuana, ecstasy, thinner-bally, cocaine, heroin, amphetamine-lysergic acid diethylamide (LSD), captagon, and drugs given with a special prescription (e.g., benzodiazepines, biperiden). In an effort to increase validity, a fictitious substance called Zopinol was included in the list and those who indicated use of this substance were excluded from the study.

Statistical Analysis

After the survey forms were filled, data were entered into the Statistical Package for the Social Sciences (IBM SPSS Statistics; NY, USA) 20.0 program. These data were evaluated using chi-square analysis. The significance limit was accepted as $p < 0.05$.

The prevalence of substance use among students and the effect of socio-demographic difference on substance use rate were analyzed.

RESULTS

The study group was composed of 1378 university first-year students [508 (36.8%) male and 870 (63.2%) female]. The average age of the students was 19.65 ± 1.28 years.

When we grouped students according to the rate of single substance use, alcohol was used by 415 students (30.1%), tobacco was used by 413 students (29.9%), marijuana was used by 43 students (3.1%), ecstasy was used by 8 students (0.6%), cocaine was used by 5 students (0.4%), thinner-bally was used by 4 students (0.3%), heroin was used by 3 students (0.2%), amphetamine-LSD was used by 3 students (0.2%), drugs given with a special prescription were taken by 3 students (0.2%), and captagon was used by 2 students (0.1%). Of the 757 students (54.7%) that stated that they did not use any of the substances, 27.1% of them were male and 72.9% were female.

The rate of tobacco, alcohol, marijuana, ecstasy, thinner-bally, cocaine, heroin, amphetamine-LSD, captagon, and special prescription drug use among university students was significantly higher for males than for females (Table 1).

In our study, substances that were most frequently used by university students were alcohol, tobacco, and marijuana. Other illegal substances were rarely used. Therefore, we assessed the results on the data related to these three substances.

When substance use according to family income was analyzed using binary Chi-square analysis, tobacco and alcohol use among children of families whose income level is above 2500TL (\sim €1000) (50.6% and 51.9%, respectively) was significantly ($p < 0.001$) higher than those whose families have a lower income level. When we evaluated the rate of substance use according to the average weekly pocket money, the rates of weekly alcohol, tobacco, and heroin use increased as the weekly pocket money increased ($p < 0.001$).

The rate of alcohol and tobacco use among adolescents whose mother has a high level of education (46.5% and 38.8%; $p < 0.001$ and $p = 0.013$,

respectively) and who works (41.0% and 36.9%; $p<0.001$ and $p=0.003$, respectively) was significantly higher than those whose mother has a low level of education and who does not work. It was determined that having a father with graduate university qualifications resulted in a significant increase of alcohol and tobacco use (40.7% and 39.0%; $p<0.001$ and $p=0.007$, respectively); however, there was no relationship between fathers regularly working and their children's substance use ($p=0.648$ and $p=0.124$, respectively).

Students were asked to evaluate their academic success as good, ordinary, or bad. Tobacco use rates significantly increased with decreasing reports of academic achievement (24.8%, 32.1%, and 47.8%, respectively; $p<0.001$).

When the effect of parental marital status or absence of a mother or father on substance use was evaluated using binary chi-square analyses, the rate of alcohol and tobacco use among those who live with a single parent because of a divorce was significantly higher than those who live with both parents and those who live with a single parent because of the loss of a parent. The rate of alcohol use among those who live with a single parent because of a divorce was 48.8%, those who live with both parents was 28.1%, and those who live with a single parent because of the loss of a parent was 29.0%. The difference was significant ($p=0.002$). The rate of tobacco use among those who live with a single parent because of a divorce was 48.8%, those who live with both parents was 27.8%, and those who live with a single parent because of the loss of a parent was 29.0%; The difference was significant ($p<0.001$).

When the effect of parental conflict was considered, the rate of alcohol and tobacco use among adolescents whose parents do not get along with each other and have problems was significantly higher than those whose parents get along well with each other. When the difference between parent relationships and rate of substance use was compared using binary chi-square analyses, it was found that a problematic relationship between a mother and father significantly increased the rate of tobacco, alcohol, and marijuana use in particular (Table 2).

When the rate of substance use was compared according to the level of students' getting along with their parents using binary chi-square analyses, it was observed that not getting along with parents increases marijuana use compared with getting along well or to a medium level; getting along well to a medium level significantly increased the rate of alcohol and tobacco use compared with getting along well (Table 3). It was observed that not being sufficiently supported by parents significantly increased the rate of alcohol, tobacco, and marijuana use (Table 4). When the rate of substance use in the context of attitude of family was evaluated using binary chi-square analyses, it was determined that there was a significant increase in the rate of alcohol, tobacco, and marijuana use among students who have indifferent parents compared with those who have concerned and supporting parents; moreover, it was determined that parents being indifferent, oppressive, strict, and overprotective significantly increases the rate of tobacco use compared with concerned parents. It was determined that the rate of tobacco, alcohol, and marijuana use increased significantly because of being exposed to violence from parents (Table 5).

The rate of tobacco use was 38.7% for those whose mother smokes and 27.3% for those whose mother does not smoke, while the alcohol drinking rate was 42.8% for those whose mother smokes and 26.5% for those whose mother does not smoke. The alcohol use rate was 64.7% for those whose mother drinks alcohol and 27.4% for those whose mother does not drink alcohol. Marijuana use was 10.3% for those whose mother drinks alcohol and 2.7% for those whose mother does not drink alcohol.

Table 1. Rates of substance use according to gender

Substances	Gender			
	Female n (%)	Male n (%)	Total n (%)	p
Tobacco	198 (22.7)	215 (42.3)	413 (29.9)	<0.001
Alcohol	209 (24.0)	206 (40.6)	415 (30.1)	<0.001
Marijuana	7 (0.8)	36 (7.1)	43 (3.1)	<0.001
Ecstasy	1 (0.1)	7 (1.4)	8 (0.6)	0.003
Thinner-bally	1 (0.1)	3 (0.6)	4 (0.3)	0.113
Cocaine	1 (0.1)	4 (0.8)	5 (0.4)	0.045
Heroin	0 (0.0)	3 (0.6)	3 (0.2)	0.023
Amphetamine-LSD	0 (0.0)	3 (0.6)	3 (0.2)	0.023
Captagon	0 (0.0)	2 (0.4)	2 (0.1)	0.064
Medicine	0 (0.0)	3 (0.6)	3 (0.2)	0.023

LSD: lysergic acid diethylamide, Medicine: drugs given with special prescription
Explanation for table: e.g.: 22.7% of females are using tobacco

Table 2. Rates of substance use according to parents' level of agreement

Substances	Parents' level of agreement			p
	Disagree n (%)	Moderately agree n (%)	Agree very well n (%)	
Tobacco	27 (48.2)	165 (33.3)	200 (25.8)	<0.001
Alcohol	24 (42.9)	163 (32.9)	211 (27.2)	0.009
Marijuana	4 (7.1)	19 (3.8)	19 (2.4)	0.085

Explanation for table: e.g.: 48.2% of students whose parents disagree with each other are using tobacco

Table 3. Rates of substance use according to relationships with parents

Substances	Level of agreement with parents			p
	Disagree n (%)	Moderately agree n (%)	Agree very well n (%)	
Tobacco	10 (35.7)	176 (37.0)	213 (25.1)	<0.001
Alcohol	10 (35.7)	162 (34.0)	231 (27.2)	0.026
Marijuana	4 (14.3)	14 (2.9)	23 (2.7)	0.002

Explanation for table: e.g.: 35.7% of students who disagree with their parents are using tobacco

Table 4. Support from parents and rates of substance use

Substances	Support from parents		p
	Yes n (%)	No n (%)	
Tobacco	348 (28.1)	52 (45.6)	<0.001
Alcohol	358 (28.9)	46 (40.4)	0.011
Marijuana	32 (2.6)	10 (8.8)	<0.001

Explanation for table: e.g.: 28.1% of students who are supported by their parents are using tobacco

Table 5. Rates of substance use according to violence from parents

Substances	Violence from parents		
	Yes n (%)	No n (%)	p
Tobacco	62 (48.4)	343 (27.8)	<0.001
Alcohol	52 (40.6)	355 (28.8)	0.005
Marijuana	8 (6.3)	33 (2.7)	0.025
Explanation for table: e.g.: 48.4% of students who are exposed to violence from their parents are using tobacco			

Table 6. Rates of substance use according to having friends who use the same substance

Substances	Having friends who use the same substance		
	Yes n (%)	No n (%)	p
Tobacco	380 (35.5)	30 (10.6)	<0.001
Alcohol	386 (36.1)	25 (8.8)	<0.001
Marijuana	42 (3.9)	0 (0.0)	0.003
Explanation for table: e.g.: 35.5% of students who have friends who use tobacco substance are themselves using tobacco			

Table 7. Rates of substance use according to having relatives who use the same substance

Substances	Having relatives who use the same substance		
	Yes n (%)	No n (%)	p
Tobacco	344 (33)	66 (21.7)	<0.001
Alcohol	352 (33.7)	60 (19.7)	<0.001
Marijuana	30 (2.9)	12 (3.9)	0.344
Explanation for table: e.g.: 33% of students who have relatives who use tobacco are themselves using tobacco			

The mother's use of tobacco increases the rate of tobacco and alcohol use ($p<0.001$), while the mother's alcohol consumption significantly increases the rate of alcohol ($p<0.001$) and marijuana ($p=0.01$) use. It was determined that the father's use of tobacco does not have a significant effect on the rate of substance use. The rate of tobacco use was 36.1% for those whose father drinks alcohol and 26.6% for those whose father does not drink alcohol, while the alcohol consumption rate was 49.8% for those whose father drinks alcohol and 22.1% for those whose father does not drink alcohol. It was determined that the alcohol drinking habit of the father increased the rate of tobacco ($p=0.01$) and alcohol ($p<0.01$) use, and the difference was significant.

It was observed that 33.9% of students use substances to have fun, 18.5% use substances because their friends use them as well, 18.5% use substances to avoid problems, 15.1% use substances because of boredom, 7.7% use substances because of the influence of their girlfriend/boyfriend, 5.2% use substances to calm down, 7% use substances because of the influence of the Internet, and 0.4% use substances to sleep. When they were asked to arrange reasons for using substances in the order of importance, the first reason was using substances together with friends, the second reason was avoiding problems and preventing boredom, and the third reason was to have fun. When the locations of substance use were evaluated, it was found that students mostly (26.5%) use substances in their homes, 18.8% use

places, 7.2% use them in the house of friends, and 4.1% use them at school. In addition, 80.8% stated that they have no difficulty in accessing the substance. Concerning the way they obtain the substance, 49.1% of students stated that they obtained these substances from friends, 29.1% from drug dealers, 10.9% from their boyfriend/girlfriend, and 5.5% from their family. Having friends who use substances significantly increases the use of tobacco, alcohol, and marijuana (Table 6). There was a significant increase in the rate of tobacco and alcohol use among those whose relatives use substances compared with those whose relatives do not (Table 7).

DISCUSSION

The aim of this study was to determine the frequency of alcohol, tobacco, and psychoactive substance use among university students aged between 18 and 21 years at Trakya University as well as to determine the conditions that increase the risk of substance use.

The rates of alcohol and psychoactive substance use differ significantly in the studies conducted among university students in Turkey and in different regions worldwide. In our study, it was determined that students of Trakya University mostly use alcohol, tobacco, and marijuana. Similarly, they are the most widely used psychoactive substances in many studies conducted at universities in our country and worldwide (14,16,22,25,44). Although the most commonly used substances are similar, the usage rates vary among the different studies. Contrary to our hypothesis, the rate of alcohol and illegal substance use was lower among Trakya University students when compared to the other international and Turkish studies (14,15,17,18,23,24,25,44,45,46). However, the rate of alcohol and illegal substance use in Altındağ et al. (22) study was similar to our study. In our study, the rate of tobacco use among university students was close to Akvardar et al. (23) and Tannikulu et al. (45) studies. University students, due to coming from around the country, show a variety of cultural and demographic backgrounds; hence, do not fully demonstrate the social characteristics of Edirne. University first-year students were included in our study, and they may not yet fully adopt and show social cohesion to the sociocultural characteristics of Edirne. Also, in recent years, a smoking ban has been seriously implemented across the country, while national alcohol and substance abuse struggle programs have been implemented and encouraging publications and advertisements have been taken under control. These can be the reasons for the lower values in the rate of alcohol and substance use. In addition, methodological differences between the studies and the lack of individuals' declaration of the truth about illegal substance use may have contributed to it.

The survey that was conducted in Kosovo included 261 students. From all questioned students, 36% smoked cigarettes every day, 12.6% consumed alcohol occasionally, and 1.4% consumed all types of drugs regularly (47). Kosovo is similar to our country in terms of sociocultural characteristics and religion; therefore, the rates may be low compared with Europe.

In a study conducted among 7382 university students in Kars, which is located in the Eastern Anatolia Region, it was determined that the rate of tobacco use was 32.2%. The mother's and friends' use of tobacco as well as high amounts of pocket money increased tobacco use. It was reported that 37.3% of students tried alcohol at least once and 3.8% tried drugs at least once, and the most common reason for using these substances was out of curiosity (63%). The rate of tobacco and alcohol use was higher among males than among females (45). In the study conducted among 498 students from three universities in the Mediterranean Region of Turkey, it was determined that 45.4% of students drink alcohol (54.1% for males and 34.1% for females). The risk of drinking alcohol was increased 6.3 times by student's smoking, 4.1 times by being male, 3.8 times by the

mother drinking alcohol, 2.8 times by the father drinking alcohol, and 2.1 times by siblings drinking alcohol. It was determined that a large amount of money spent monthly by students is another risk factor which increased alcohol consumption (46). In our study, the use of nearly all the illegal substances was significantly higher among males than among females. Although the rate of marijuana use was lower in our study, it was five times higher among males than among females. In a study conducted among 396 students of Hatay University in 2006, the rate of life-long tobacco, alcohol, and drug use was 73.2%, 56.6%, and 9.6% respectively. Tobacco, alcohol, and drug use was found to be higher among males. Similar to our study, the use of tobacco and alcohol was high among those whose father, brother, or sister had a tobacco and alcohol use history. The rate of drug use was found to be higher for those who stated their close relatives used drugs (44). In our study, similarly with Altındağ et al. study (22), the rate of substance use was found to be higher for those whose friends use substances as well. The difference in data between studies in Turkey is striking. In this case, either the methodological differences between the studies or different sociocultural structures in different regions may have caused it. Moreover, because these substances are illegal, some of the participants may not have responded accurately. These differences in causes need to be investigated in further studies.

In our study, similarly with Tot et al. (32) study, there was a significant increase in the rate of alcohol use among families in which parents use alcohol and the education level of the mother is high. Similarly with our study, it was determined that the rate of smoking was significantly high for adolescents whose academic performance is low. In the 2004 National Survey on Drug Use and Health of USA (48), it was observed that the rate of alcohol use was higher among families whose income level is high, which is similar to our study. Both of our studies and similar studies show once again that behavior styles of the family, as a risk factor, may predispose young people to use the substance.

In a study conducted among Mersin University students, alcohol use was higher for those whose parents drink alcohol. There was no relationship found between tobacco use and parents' use of tobacco (25). Similarly in our study, it was determined that alcohol use was significantly higher for those whose parents consume alcohol. Our study determined that the mother's use of tobacco significantly increased the rate of tobacco use among university students, and similar to the study above, the father's tobacco use does not have a significant effect on tobacco use. These results show that substance use within a family should be considered concerning its effects on substance use among young people.

In the study of Akfert et al. (6) conducted among university students, "communication" of students who tried smoking was worse, and there was an "authoritarian-oppressive attitude," "disharmony in parent relationship," and "indefiniteness and misuse in relationship" among family members of adolescents who tried alcohol. In our study, it was observed that alcohol, tobacco, and other substances were used more commonly among students who cannot get along with their parents; whose parents cannot get along with them; where the attitude of family is authoritarian-oppressive, indifferent, or overprotective; who do not experience sufficient support from their family; and those who are exposed to physical violence. A troubled family background restricts the healthy development of young people and directs them to use substances. This may be a guide for preventative interventions in the fight against alcohol and substance use.

In the study conducted among students of Mersin University, there was no relationship observed between substance use and school success or

parent's being together or divorced or at least one deceased (25). In our study, the rate of tobacco and alcohol use was found to be higher among those whose parents were divorced and who live in a single-parent household or whose school success is low compared with those who live together with both parents. It was determined that tobacco use was significantly higher among those who report their school success to be below ordinary or extremely bad. There was no relationship between alcohol and school success. Similarly, in our study it was determined that the rate of smoking was significantly higher among those whose school success is bad, and there was no relationship between alcohol and school success.

Our study was conducted using self-reporting survey forms, which may pose a limitation in the sense of the reliability of data. However, the powerful aspect of the study is the magnitude of the sample and its uniqueness. There is an absence of such a study in this region of Turkey with a similarly large sample size.

As a result, there are differences in the reported rates of psychoactive substance use in different regions of our country. However, the rate of psychoactive substance use is lower among Trakya University students than among other regions of Turkey and particularly when compared to the results of studies conducted in other countries. The results of this study also show that positive interventions for familial and peer relationships and interventions to increase academic success are very important for fighting substance use. For future researchers, repetition of this study several years later may help to understand the change in the types and rates of substance use.

It was thought that determination of the prevalence of substance use among young people and the conditions that would increase the risk of substance use would serve as a resource for similar studies in the future, would provide data for health and education policies to prevent substance use among young people, and would direct studies conducted for the prevention of substance use.

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